Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) A medical device comprising a coating rendering the medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, wherein the coating comprises a therapeutically effective amount of a type of antibody which reacts with an endothelial cell surface antigen, and one or more layers of a matrix.

2. (Currently amended) The medical device of claim 1, wherein the matrix is layered onto the surface of the medical device, and antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen are tethered covalently by a linker molecule to the matrix.

3. (Cancelled)

4. (Original) The medical device of claim 1, wherein the antibody is a monoclonal antibody.

5. (Original) The medical device of claim 1, wherein the medical device is a stent.

6. (Original) The medical device of claim 1, wherein the medical device is a synthetic graft.

7. (Original) The medical device of claim 1, wherein the endothelial cell is a human cell.

8. (Original) The medical device of claim 4, wherein the monoclonal antibody reacts with endothelial cell surface antigen CD34.

9. (Original) The medical device of claim 4 or 8, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

Claims 10-17 (Canceled)

18. (Previously presented) A coating composition for rendering a medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, wherein the coating composition comprises a matrix and a therapeutically effective amount of a type of antibody which reacts with an endothelial cell surface antigen.

Claim 19 (Cancelled)

20. (Previously presented) The coating composition of claim 18, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, and expanded polytetrafluoroethylene.

21. (Previously presented) The coating composition of claim 18, wherein the antibody is a monoclonal antibody.

22. (Previously presented) The coating composition of claim 18, wherein the endothelial cell is a human cell.

23. (Previously presented) The coating composition of claim 21, wherein the monoclonal antibody reacts with endothelial cell surface antigen, CD34.

24. (Previously presented) The coating composition of claim 21 or 23, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

25. (Previously presented) A method for rendering a medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, comprising the steps:

(a) coating the medical device with one or more layers of a matrix; and

(b) adding to the matrix layer a therapeutically effective amount of a type of antibody which reacts with an endothelial cell surface antigen.

26. (Currently amended) The method of claim 25, wherein the antibody is noncovalently coated on the ~~last layer of the~~ matrix layer ~~coating the medical device~~.

27. (Previously presented) The method of claim 25, wherein the antibody is tethered covalently by a linker molecule to the matrix layer coating the medical device.

Claim 28 (Canceled)

29. (Previously presented) A method of treating a mammal for atherosclerosis comprising inserting a medical device into an artery of the mammal, wherein the medical device comprises a coating rendering the medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, wherein the coating comprises a therapeutically effective amount of a type of antibody which reacts with an endothelial cell surface antigen, and one or more layers of a matrix.

30. (Original) The method of treatment of claim 29, wherein the antibody is a monoclonal antibody.

31. (Original) The method of treatment of claim 29, wherein the atherosclerosis is coronary artery atherosclerosis.

32. (Original) The method of treatment of claim 30, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

Claims 33-37 (Cancelled)

38. (Previously presented) A method for treating a mammal for obstruction of a vessel comprising inserting a medical device into a vessel of the mammal, wherein the medical device comprises a coating rendering the medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, wherein the coating comprises a type of antibody which reacts with an endothelial cell surface antigen, and one or more layers layer of a matrix.

39. (Previously presented) The method of treatment of claim 38, wherein the vessel is an artery.

40. (Currently amended) The method of treatment of claim [36 or] 38, wherein the vessel is a vein.

41. (Previously presented) A medical device comprising one or more layers of a matrix, wherein the matrix layer is covalently attached to the medical device and the matrix comprises a C60O fullerene.

42. (Currently amended) The medical device of claim 41, wherein the ~~first layer of the~~ matrix layer is noncovalently attached to the medical device.

Claims 43-44 (Cancelled)

45. (Original) The medical device of claim 41, wherein the medical device is a stent.

46. (Original) The medical device of claim 41, wherein the medical device is a synthetic graft.

Claims 47-61 (Cancelled)

62. (Previously presented) The medical device according to claim 1, wherein the matrix comprises a naturally occurring material or a synthetic material.

63. (Previously presented) The medical device according to claim 1, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, and expanded polytetrafluoroethylene.

64. (Previously presented) The medical device according to claim 63, wherein when the matrix material comprises a fullerene, the fullerene ranges from about C60 to about C100.

65. (Previously presented) The medical device according to claim 63, wherein when the matrix material comprises a fullerene, the fullerene is C60O.

66. (Previously presented) The coating composition according to claim 18, wherein the matrix comprises a naturally occurring material or a synthetic material.

67. (Previously presented) The coating composition according to claim 20, wherein when the matrix material comprises a fullerene, the fullerene ranges from about C60 to about C100.

68. (Previously presented) The coating composition according to claim 20, wherein when the matrix material comprises a fullerene, the fullerene is C60O.

69. (Previously presented) The method according to claim 25, wherein the matrix comprises a naturally occurring material or a synthetic material.

70. (Previously presented) The method according to claim 25, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, and expanded polytetrafluoroethylene.

71. (Previously presented) The method according to claim 70, wherein when the matrix material comprises a fullerene, the fullerene ranges from about C60 to about C100.

72. (Previously presented) The method according to claim 70, wherein when the matrix material comprises a fullerene, the fullerene is C60O.

73. (Previously presented) The method according to claim 29 or 38, wherein the matrix comprises a naturally occurring material or a synthetic material.

74. (Previously presented) The method according to claim 29 or 38, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, and expanded polytetrafluoroethylene.

75. (Previously presented) The method according to claim 74, wherein when the matrix material comprises a fullerene, the fullerene ranges from about C60 to about C100.

76. (Previously presented) The method according to claim 74, wherein when the matrix material comprises a fullerene, the fullerene is C60O.

77. (Previously presented) The coating composition of claim 18, wherein the coating composition comprises antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen.

78. (Previously presented) The method according to claim 25, wherein a therapeutically effective amount of antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen are added to the matrix layer.

79. (Previously presented) The method of claim 29 or 38, wherein the coating composition comprises antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen.